

CLAIMS

- 1) Cover (1, 101, 102, 103, 104, 105) for an electric accumulator (100) adapted to be integral with the container (2) of said accumulator (100) **characterised in that** said cover (1, 101, 102, 103, 104, 105) comprises:
- 5 – at least one reservoir (6), adapted to contain a topping up liquid (R) of the electrolyte (E) present in each of the one or more cells (4) of said accumulator (100), communicating through at least one supply duct (7) of said topping up liquid (R) with said one or more cells (4);
 - 10 – control means (9) of the level (L) of said electrolyte (E) in each of said one or more cells (4) adapted to prevent/allow the flow of said topping up liquid (R) through said at least one supply duct (7) when the corresponding level (L) of said electrolyte (E) is higher/lower than at least one predetermined level (S).
- 2) Cover (1, 101, 102, 103, 104, 105) according to claim 1) **characterised in that** said control means (9) of the level (L) comprise at least one tubular element (10), the duct (11) of which is adapted to hydraulically connect, or not, according to the level (L) of said electrolyte (E), the air chambers (12, 13) that are defined in said at least one reservoir (6) and in each of said one or more cells (4) according to the various levels (L) of electrolyte (E).
- 20 3) Cover (1, 101, 102, 103, 104, 105) according to claim 2) **characterised in that** said air chamber (12) of said at least one reservoir (6) is defined by the surface of the free surface of said topping up liquid (R), by the upper wall (61), and by the portions of side wall (62) of said at least one reservoir (6), emerging from said topping up liquid (R), when the accumulator (100) is in working position.
- 25 4) Cover (1, 101, 102, 103, 104, 105) according to claim 2) or 3) **characterised in that** said air chamber (13) of said one or more cells (4) is defined by the surface of the free surface of said electrolyte (E), by the upper wall (41), and by the portions of side wall (42) of said one or more cells (4) emerging from said electrolyte (E) when the accumulator (100) is in working position.
- 30 5) Cover (1, 101, 102, 103, 104, 105) according to any one of claims 2) to 4) **characterised in that** said predetermined level (S) of said electrolyte (E) in each of said one or more cells (4) is substantially equal to the height (16) of said cell (4) minus the length (15) of the lower end (10a) of the corresponding one of said
- 35 at least one tubular element (10) with respect to the upper wall (41) of said cell

(4).

6) Cover (101) according to claim 1) **characterised in that** said control means (9) of the level (L) of electrolyte (E) comprise at least one float (18) mechanically connected to a shaft (19) slidably coupled with a guide element.

5 7) Cover (103, 104, 105) according to any one of the previous claims **characterised in that** it has at least one discharge duct (21) of the gases that form inside each of said one or more cells (4).

8) Cover (104, 105) according to claim 7) **characterised in that** said at least one discharge duct (21) comprises at least one collector duct (24) communicating
10 with at least one of said one or more cells (4)

9) Cover (104, 105) according to claim 8) **characterised in that** said at least one collector duct (24) has at least one wall provided with tilted planes (27, 28),

10) Cover (104, 105) according to claim 8) or 9) **characterised in that** said at least one collector duct (24) communicates with a plurality of accumulation
15 chambers (25) each communicating with one of said one or more cells (4) through at least one corresponding vent channel (26).

11) Cover (104, 105) according to claim 10) **characterised in that** each of said accumulation chambers (25) has at least one wall provided with tilted planes (27, 28).

12) Cover (104, 105) according to claim 9) or 11) **characterised in that** said tilted planes (27, 28) define one or more tanks (29, 30) communicating with each other.

13) Cover (103, 104, 105) according to any one of claims 7) to 12) **characterised in that** in said at least one discharge duct (21) at least one over-
25 pressure valve is arranged (28).

14) Cover (103, 104, 105) according to claim 13) **characterised in that** the opening pressure of said at least one over-pressure valve (28) is no less than the pressure exerted by said electrolyte (E) on said at least one over-pressure valve when said accumulator (100) is turned upside down.

15) Cover (103, 104, 105) according to any one of claims 7) to 14) **characterised in that** said at least one discharge duct (21) has at least one anti-explosion device is arranged.

16) Cover (1, 101, 102, 103, 104, 105) according to any one of the previous claims **characterised in that** said at least one reservoir (6) is provided with at
35 least one filling hole (8) for filling said at least one reservoir (6) that can be

closed by at least one corresponding cap (81).

17) Cover (1, 101, 102, 103, 104, 105) according to any one of the previous claims **characterised in that** it comprises a main body (1a) and at least one closing element (1b).

- 5 18) Cover (102, 103, 104, 105) according to any one of the previous claims **characterised in that** it is provided with at least one filling, inspection and topping up hole (20) for each of said one or more cells (4), that can be closed through a closing cap (20a).

- 10 19) Cover (102, 103, 104, 105) according to claim 18) and any one of claims 2) to 5) **characterised in that** said at least one filling, inspection and topping up hole (20) is realised in correspondence of said at least one tubular element (10), said cap (20a) having at least one opening (20b) adapted to not obstruct said duct (11).

19) Electric accumulator (100) comprising:

- 15 – a container (2) provided on the inside with one or more cells (4) each adapted to house at least one plate group (5) of said accumulator (100) and to contain the electrolyte (E);
 – at least one cover (1, 101, 102, 103, 104, 105) adapted to close said container (2);

- 20 **characterised in that** said cover (1, 101, 102, 103, 104, 105) is realised according to any one of claims 1) to 18).

20) Cover (1, 101, 102, 103, 104, 105) and electric accumulator (100) substantially as described with reference to the attached drawings.